# TECHNICAL REVIEW DOCUMENT for OPERATING PERMIT 95OPPB097

to be issued to:

CF&I Steel, L.P.
Pueblo - Steelmaking Mill
Pueblo County
Source ID 1010048

Prepared by Michael E. Jensen April 7, 1998

#### I. PURPOSE:

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. Conclusions in this document are based on information provided in the original application submittal of December 8, 1995, as well as numerous telephone contacts with the applicant.

# **II. Source Description:**

The steel plant is located in Pueblo County at the south edge of the City of Pueblo, Colorado. The area in which the plant operates is designated as attainment for all criteria pollutants. The total plant emissions classify the plant as a major stationary source with respect to Prevention of Significant Deterioration (PSD) requirements. The Title V application states the steelmaking production operations are not subject to the provisions of the Accidental Release Plan Provisions of Section 112 (r)(7) of the Clean Air Act.

CF&I Steel, L.P. (CF&I) uses two (2) electric arc furnaces to produce steel for the production of various products. CF&I elected to divide the plant by major production function and submit separate Title V permits for each production function. This places the compliance responsibility on the designated production manager making the operating, budget and scheduling decisions. For this document the word >Mill= will be used to refer to the various processes related to the production function. The word >Mill= is not referring to a separate facility. The following separate Title V permit applications were submitted for the CF&I plant:

Rail Mill 95OPPB086 Steelmaking 95OPPB097

Rod/Bar Mill 95OPPB088 Utilities 95OPPB098

Seamless Mill 95OPPB089

The sources addressed in this operating permit are those related to the portion of the plant dedicated to the production of steel. Sources of air pollution emissions involved with the steel production are:

EAF #3 & #4 - Electric Arc Furnaces (EAF) melt the steel scrap. The melted scrap is mixed with various materials (fluxes) to produce steel billets.

Ladle Metallurgy Station - Materials are added to refine the steel to the quality required for the final production use.

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Trestle Offloading - Rail cars delivering raw materials for the steel production are moved onto an elevated trestle for off-loading.

There is one slightly different aspect about the baghouses for the electric arc furnaces worth noting. The gas is exhausted from the baghouses into a plenum through the baghouses instead of being discharged through conventional stacks.

The following tables display the Potential to Emit for the individual production processes as reported in the separate Title V applications, and the total Potential to Emit for the plant. The actual emissions reported in the Division database for the 1996 data year are included for comparative purposes.

# STEELMAKING POTENTIAL TO EMIT, TONS PE YEAR

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	PM	PM <sub>10</sub>	$NO_X$	$SO_2$	VOC	СО
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# PLANT POTENTIAL TO EMIT, TONS PER YEAR

	PM	PM <sub>10</sub>	$NO_X$	$SO_2$	VOC	СО	Lead
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# PTE PLANT EMISSIONS, POUNDS PER YEAR

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	Rail	Rod/Bar	Seamless	Steel	Utilities	TOTAL S	Division Database 1996 Plant Totals
Stryene 100425 <sup>a</sup>		43200	18000			61200	
Ethylbenzene 100414		4800	2000		268	7068	
Toluene 108883	6000	800	5000		268	12068	4980
MIBK 108101	1600	200	1000			2800	
Arsenic Compounds				50		50	12
Cadmium Compounds				556		556	111
Chromium Compounds				1902		1902	689
Mercury				238		238	
Manganese				29460		29460	
Nickel Compounds				238		238	
Ferromanganese				6		6	
Silicomanganese				278		278	
Ferrochromium				20		20	
Methanol 67561	2400		800			3200	
2-Butoxyethanol 111672			800			800	
Xylene 1330207			6600		538	7138	796
MEK 78933			4200			4200	
Trichloroethane 71556			180			180	

Glycol ethers	400	5800		6200	
TCA 79005			268	268	
Perchloroethylene 127184			268	268	320
Methylene chloride 75092	7000			7000	
Hexane					9560
Benzene					19414
Lead Compounds					533

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Hexane, benzene and the lead compounds are reported in the 1996 database as related to the Steelmaking Mill but these hazardous air pollutants are not reported in the Title V application. These hazardous air pollutants were apparently emitted in the past but were no longer emitted at the time the Title V application was prepared. CF&I has not submitted a Revised APEN to report zero emissions for these hazardous air pollutants.

### **III. EMISSION SOURCES:**

The following sources are specifically regulated under terms and conditions of the Operating Permit for this production center.

## EAF #3 & EAF #4 and Meltshop

Some background information is provided for a better understanding of the operations involved in the following sections. Each electric arc furnace is equipped with its own baghouse. The baghouses are connected to canopies constructed above the furnaces. The top of a furnace is opened to charge the furnace with the raw materials needed for producing the molten steel. The canopies had to be constructed at a considerable distance from the top of the furnaces in order to allow the furnace tops to be opened, and the over-head crane to have access for depositing the materials. As a consequence, the canopies are somewhat ineffective in capturing the emissions. The emissions that escape the canopies are discharged through openings (cupolas) in the roof of the building. The escaping emissions have a significant particulate matter content and create opacity in the atmosphere.

The area around the furnaces where the raw materials for the furnaces and the molten steel from the furnaces is handled is considered the melt shop. Some of the activities could be partially isolated to allow some control of the emissions. However, most of the activity must be conducted in the open and results in

emissions escaping through the roof cupolas and other openings in the building. The permittee requested the meltshop be deleted as a source. While the Division had listed the meltshop as a separate source in the historic database, their is difficulty in separating the furnace and shop emissions. The meltshop was removed as a separate source.

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 10PB557. Some confusion is created because the Construction Permit did not note that the melt shop was included under the permit requirements. Regulation No. 1, Section V, Paragraph D establishes a grain loading particulate standard for the furnaces. Applicable requirements were also established by the Compliance Order on Consent, last dated June 4, 1997, subsequently modified by a June 20, 1997 letter. Copies of the Compliance Order and the modification letter are included in the Operating Permit to establish dates and related activities.
- **2. Emission Factors:** While the primary heat source for the furnaces is provided by electricity, natural gas is also required for heating in some of the associated operations. The natural gas emission factors were selected from AP-42. The natural gas emissions represent only a small portion of the total emissions.

Any estimation procedure requires a subjective evaluation of how to compensate for the amount of material that escapes the capture and collection system. The process related emission factors for the criteria pollutants, other than particulate matter, are based on the amount of steel produced. These emission factors were established when the Construction Permit was created. The Title V application based the particulate matter and hazardous air pollutant emissions estimates on the particulate matter captured by the baghouses. The permittee monitors the amount of material captured by the baghouses. In addition, a metal analysis is performed on the captured particulate matter. The results of the metal analysis are used to develop emission factors for the metals discharged to the atmosphere. The emission factor calculations in the Title V application are based on a baghouse particulate matter capture efficiency of 99.2%. This capture efficiency will be used until a performance test establishes a different value.

The process related emission factors for the EAFs included an estimate of the meltshop emissions. The Title V application provided a separate calculation estimating the particulate emissions from the meltshop. These calculated values were included in the summation of the total facility emissions. Therefore, the Title V application double counted the meltshop particulate emissions when calculating the total facility emissions.

- **3. Monitoring Plan**: The emissions estimations and the compliance determinations require the monitoring of the amount of steel produced, the operating hours of each furnace, the amount of particulate matter captured by the baghouses and the amount of natural gas used. The Division finds the recent Consent Order justifies the need for frequent opacity observations.
- **4. Compliance Status**: The Title V application noted the electric arc furnaces and the melt shop were not in compliance with the 20% opacity standard. Plans were being developed to enhance the fume collection

and baghouse system for each furnace, enclose the north end of the meltshop and to enhance the fume collection in the melt shop. The planned compliance date was identified as December 31, 1998. Subsequent to the submittal of the Title V application these same operations have been subject to the Compliance Order on Consent included in the Title V permit. A feasibility study is currently underway to evaluate replacing the two existing furnaces with one furnace. The new furnace will be subject to the NSPS Subpart AAa requirements.

A review was made to determine if the existing electric arc furnaces were subject to NSPS Subpart AA. The review established that the construction of EAF #3 was completed prior to the October 21, 1974 effective date of Subpart AA. However, the construction of EAF #4 started at approximately this date. The available documentation lacked sufficient detail for a precise determination. Much of the review focused on the interpretations by EPA and court rulings on the definition of xommenced construction= as used in the NSPS requirements. The construction of the two furnaces was undertaken as a phased project. Construction of EAF #4 was in the second phase. The Division issued a construction permit for EAF #4 in December 1974, which is after the effective date of the NSPS requirements. The conditions of the construction permit did not include any of the NSPS requirements. EPA had the responsibility for the NSPS program at the time the construction permit was issued. The State was not delegated the program responsibility until 1978. There was no documentation to indicate if EPA ever evaluated the construction of EAF #4. The review concluded that EAF #4 was not subject to the requirements of Subpart AA. One of the determinative factors was that construction of equipment integral to the installation of EAF #4 (e.g. melt shop walls and roof structure, including the internal crane structure, the building penthouses and the duct work inside the melt shop) had commenced during the relevant time period for construction of both EAFs, but before October 21, 1974. These structures would have required significant redesign and reconstruction to provide an internal hood and plenum had EAF #4 been expected to comply with the relevant provisions of the NSPS.

## **Billet Caster and Round Caster**

The two casters had been assigned separate construction permits, primarily because they were two difference size furnaces. The Title V application requested the two caster be combined into one source. The emission factors for both furances are the same and the fuel consumption and steel processing records are not kept separately. Combining the two casters into one source allows the permittee the flexability to operate either caster as needed for production schedules without the need for additional recordkeeping. This request was granted and the casters were combined as one source in the operating permit.

**1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-3 for the billet caster and 93PB1073-4 for the round caster. In preparing the Operating Permit a typographic error was found in the Final Approval of Construction Permit 93PB1073-4 for the round caster. The error set the nitrogen oxides emission limit at 6.69 tons per year. The correct value was 35.59 tons per year. The correct value was incorporated in the Operating Permit.

**2. Emission Factors:** The emissions are estimated from the natural gas consumed and the amount of steel processed. The natural gas emission factors were selected from AP-42. The particulate matter emission factor for hot metal transfer was taken from AP-42. The  $PM_{10}$  and the NOx emission factors were developed in the preparation of the construction permits.

The Title V application total facility emissions reported could not be verified. As noted above, the meltshop particulate emissions were apparently double counted when calculating the total emissions. In addition, it appears that while the application discussed the process related emission factors for  $PM_{10}$  and nitrogen oxide in the casting process, these emissions were not calculated and included in the emissions for the casters and the total facility.

- **3. Monitoring Plan**: The fuel usage, amount of steel processed and the furnace operating hours are to be monitored for estimating the emissions and determining compliance.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

# Ladle Metallurgy Station

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-8. During the preparation of the Operation Permit the permittee requested the hourly limits be increased, but the annual limits not be changed. Based on experience, the permittee was not certain they could comply with the short term limits during periods of intense production. The Division accept the request to increase the limit.
- **2. Emission Factors:** The emission factors were provided in the Title V application. The Title V application baghouse capture efficiencies of 99.0% for particulates, 98.7% for  $PM_{10}$ , and 99.0% for lead, were used in verifying compliance for this process.
- **3. Monitoring Plan**: The emission estimates and the compliance determinations are based on the monitoring of the amount of steel processed and the operating hours of the station.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

## **Vacuum Degassing Facility**

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-2. During the preparation of the Operation Permit the permittee requested the hourly steel processing limit be increased, but the annual limit not be changed. Based on experience, the permittee was not certain they could comply with the short term limit during periods of intense production. The Division accept the request to increase the limit.
- **2. Emission Factors:** The degassing emissions are discharged through a flare to control the amount of carbon monoxide emissions. The atmospheric emissions are generated from the natural gas combustion of the flare and from the degassing. The natural gas combustion emission factors were selected from AP-42. The carbon monoxide emission factor for the degassing process was developed for the construction permit.
- **3. Monitoring Plan**: The emission estimates and the compliance demonstration are based on the amount of natural gas consumed and the amount of steel processed.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

# Cleaver Brooks Boiler For Degassing Steam Production

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-1.
- **2. Emission Factors:** The boiler burns only natural gas. The emission factors were selected from AP-42. There is no control equipment on the boiler stack.
- **3. Monitoring Plan**: Only the fuel use needs to be monitored because the estimated emissions are calculated from the fuel use. The Division accepts that the combustion of pipeline quality natural gas is not expected to exceed the opacity standard or create significant sulfur dioxide emissions. The permittee is to provide an annual certification that only pipeline quality natural gas is burned.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

## Trestle Off-loading

**1. Applicable Requirements:** This source was grandfathered from the regulatory requirement for a construction permit. The pertinent applicable requirements for this source of fugitive particulate emissions are to minimize fugitive particulate emissions (Regulation No. 1, Section III.D.1.a), and APEN reporting (Regulation No. 3, Part A, Section II). The 20% opacity, no off-property transport and nuisance emission limitations identified in Regulation 1, Section III.D.1.c are guidelines, not enforceable standards. However, failure to comply with the guidelines may trigger the Division to require a fugitive emissions control plan be submitted. The file information indicates a fugitive particulate emissions control plan has not been required to avoid a problem with the off-site transport of fugitive particulate emissions.

While PM and PM<sub>10</sub> fugitive particulate emissions are subject to the APEN reporting requirements, they but are not subject to annual emission fees.

**2. Emission Factors:** Fugitive emissions are emissions that are not discharged to the atmosphere in a confined flow stream. The combination of wind and the exposed surface area create fugitive particulate emissions from the storage piles. The fugitive particulate emissions are categorized as particulate matter (PM), which is typically particulates with a relatively coarse size range, and particulate matter less than 10 microns in diameter ( $PM_{10}$ ).

The Title V application provided a particulate emission factor of 0.0128 pounds per ton of total flux off-loaded, and 0.0018 pounds per ton of burned lime off-loaded from the trestle. The Title V application also provided  $PM_{10}$  emission factors of 0.00607 pounds per ton of total flux off-loaded, and 0.00087 pounds of burned lime off-loaded. The Division accepts the emission factors provided by the application.

The permittee notes the flux material being purchased may change in the future and have different emissions factors, but the source emissions would not be expected to change. The Division is not able to accommodate an unspecified list of materials in the Title V permit. If a future change in the materials used results in no change or a decrease in the source emissions, the Title V permit may be modified with an administrative type of change. If the emissions increase, considerations for re-opening the permit will have to be reviewed at that time.

- **3. Monitoring Plan:** As noted above, once the emission factors have been determined the emissions can be estimated from the amount of material off-loaded from the trestle each year. Fugitive particulate emissions may be controlled by wetting the stored material with water or chemicals, compaction and grading of the stored material. Visual observations provide sufficient information for when a problem is developing and the need for corrective action.
- **4. Compliance Status:** The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and the self-certification performed by the applicant.

# **Insignificant Sources**

Several insignificant sources of emissions related to this production process are noted in the Title V application. These were cited by the use of the general categories provided in the Title V application forms, and no specific source or equipment was noted. On an annual basis the applicant will have to review the estimated emissions from these insignificant sources to determine if they are still insignificant and in compliance.

The Title V application notes there are 35 to 45 insignificant natural gas combustion sources with ratings of 0.02 to 0.25 million Btu per hour. Various activities within the steelmaking mill such as slag removal, storage of HBI and bucket loading have particulate emissions which are unquantifiable at this time. The permittee used their experience to estimate that each of these sources are less than 2 TPY. The particulate emissions from the flux hoppers are considered insignificant whether or not an 80% enclosure efficiency is applied. The handling of the baghouse dust is considered to be an insignificant source. The potential to emit for the dust handling is estimated at only a fraction of a ton without consideration of any dust control measures.

## **Alternate Operating Scenarios**

No alternative operating scenarios were identified.

### Permit Shield

The intent of the permit shield is to provide limited protection to the facility in the event of an error in the evaluation of whether a regulation, or portion of a regulation applies. The facility identifies the issue and presents its position. The Division reviews the position. If the Division and the facility mutually agree on the position, the issue is recorded in the permit. If, at a later date, it is determined that an error was made in the mutual decision, the facility is protected from enforcement action until the permit can be reopened and the correct requirements and a compliance schedule inserted.

For this Title V application, where a request for the shield protection for a specific applicable requirement, or a specific section of an applicable requirement, and a proper justification was provided for the request, the shield was granted. The permit shield was not granted for requests for a blanket protection from all portions of a regulation. The Division finds this type of blanket protection is too broad and general for the

### Miscellaneous

shield protection to be properly interpreted and granted.

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Obviously, factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

### **Hazardous Air Pollutants**

Hazardous air pollutants are included in the State non-criteria reportable pollutants. A de minimis reporting threshold is established by a combination of the degree of health hazard represented by the pollutant (Bin) and the height above ground for the discharge of the material. The non-criteria reportable pollutants and the reporting thresholds for the sources at this mill are included in Appendix H of the Title V permit. The Title V application provided the following emission factors for the pollutants.

# Steelmaking Non-criteria Pollutant Emission Factors

Pollutant	Value	Units
	rnaces #3 & #4	
Arsenic	0.00127	pounds per ton of particulate matter emitted
Cadmium	0.0141	
Chromium	0.0484	
Mercury	0.00605	
Manganese	0.726	
Nickel	0.00605	
Lead	0.526	
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Ferromanganese	0.0128	pounds per ton of ferromanganese
Silicomanganese		pounds per ton of silicomanganese
Ferrochromium		pounds per ton of ferrochromium

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On April 16, 1998, the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all Operating Permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the Construction Permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting the hours of operation.

#### **II. Source Description:**

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Manganese				29460		29460	
Nickel Compounds				238		238	
Ferromanganese				6		6	
Silicomanganese				278		278	
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Glycol ethers	400		5800			6200	

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Perchloroethylene 127184					268	268	320
Methylene chloride 75092	7000					7000	
Hexane							9560
Benzene							19414
Lead Compounds							533

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Hexane, benzene and the lead compounds are reported in the 1996 database as related to the Steelmaking Mill but these hazardous air pollutants are not reported in the Title V application. These hazardous air pollutants were apparently emitted in the past but were no longer emitted at the time the Title V application was prepared. CF&I has not submitted a Revised APEN to report zero emissions for these hazardous air pollutants.

#### III. EMISSION SOURCES:

The following sources are specifically regulated under terms and conditions of the Operating Permit for this production center.

## EAF #3 & EAF #4 and Meltshop

Some background information is provided for a better understanding of the operations involved in the following sections. Each electric arc furnace is equipped with its own baghouse. The baghouses are connected to canopies constructed above the furnaces. The top of a furnace is opened to charge the furnace with the raw materials needed for producing the molten steel. The canopies had to be constructed at a considerable distance from the top of the furnaces in order to allow the furnace tops to be opened, and the over-head crane to have access for depositing the materials. As a consequence, the canopies are somewhat ineffective in capturing the emissions. The emissions that escape the canopies are discharged through openings (cupolas) in the roof of the building. The escaping emissions have a significant particulate matter content and create opacity in the atmosphere.

The area around the furnaces where the raw materials for the furnaces and the molten steel from the furnaces is handled is considered the melt shop. Some of the activities could be partially isolated to allow

some control of the emissions. However, most of the activity must be conducted in the open and results in emissions escaping through the roof cupolas and other openings in the building. The permittee requested the meltshop be deleted as a source. While the Division had listed the meltshop as a separate source in the historic database, their is difficulty in separating the furnace and shop emissions. The meltshop was removed as a separate source.

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 10PB557. Some confusion is created because the Construction Permit did not note that the melt shop was included under the permit requirements. Regulation No. 1, Section V, Paragraph D establishes a grain loading particulate standard for the furnaces. Applicable requirements were also established by the Compliance Order on Consent, last dated June 4, 1997, subsequently modified by a June 20, 1997 letter. Copies of the Compliance Order and the modification letter are included in the Operating Permit to establish dates and related activities.
- **2. Emission Factors:** While the primary heat source for the furnaces is provided by electricity, natural gas is also required for heating in some of the associated operations. The natural gas emission factors were selected from AP-42. The natural gas emissions represent only a small portion of the total emissions.

Any estimation procedure requires a subjective evaluation of how to compensate for the amount of material that escapes the capture and collection system. The process related emission factors for the criteria pollutants, other than particulate matter, are based on the amount of steel produced. These emission factors were established when the Construction Permit was created. The Title V application based the particulate matter and hazardous air pollutant emissions estimates on the particulate matter captured by the baghouses. The permittee monitors the amount of material captured by the baghouses. In addition, a metal analysis is performed on the captured particulate matter. The results of the metal analysis are used to develop emission factors for the metals discharged to the atmosphere. The emission factor calculations in the Title V application are based on a baghouse particulate matter capture efficiency of 99.2%. This capture efficiency will be used until a performance test establishes a different value.

The process related emission factors for the EAFs included an estimate of the meltshop emissions. The Title V application provided a separate calculation estimating the particulate emissions from the meltshop. These calculated values were included in the summation of the total facility emissions. Therefore, the Title V application double counted the meltshop particulate emissions when calculating the total facility emissions.

- **3. Monitoring Plan**: The emissions estimations and the compliance determinations require the monitoring of the amount of steel produced, the operating hours of each furnace, the amount of particulate matter captured by the baghouses and the amount of natural gas used. The Division finds the recent Consent Order justifies the need for frequent opacity observations.
- **4.** Compliance Status: The Title V application noted the electric arc furnaces and the melt shop were not in compliance with the 20% opacity standard. Plans were being developed to enhance the fume collection

and baghouse system for each furnace, enclose the north end of the meltshop and to enhance the fume collection in the melt shop. The planned compliance date was identified as December 31, 1998. Subsequent to the submittal of the Title V application these same operations have been subject to the Compliance Order on Consent included in the Title V permit. A feasibility study is currently underway to evaluate replacing the two existing furnaces with one furnace. The new furnace will be subject to the NSPS Subpart AAa requirements.

A review was made to determine if the existing electric arc furnaces were subject to NSPS Subpart AA. The review established that the construction of EAF #3 was completed prior to the October 21, 1974 effective date of Subpart AA. However, the construction of EAF #4 started at approximately this date. The available documentation lacked sufficient detail for a precise determination. Much of the review focused on the interpretations by EPA and court rulings on the definition of xommenced construction= as used in the NSPS requirements. The construction of the two furnaces was undertaken as a phased project. Construction of EAF #4 was in the second phase. The Division issued a construction permit for EAF #4 in December 1974, which is after the effective date of the NSPS requirements. The conditions of the construction permit did not include any of the NSPS requirements. EPA had the responsibility for the NSPS program at the time the construction permit was issued. The State was not delegated the program responsibility until 1978. There was no documentation to indicate if EPA ever evaluated the construction of EAF #4. The review concluded that EAF #4 was not subject to the requirements of Subpart AA. One of the determinative factors was that construction of equipment integral to the installation of EAF #4 (e.g. melt shop walls and roof structure, including the internal crane structure, the building penthouses and the duct work inside the melt shop) had commenced during the relevant time period for construction of both EAFs, but before October 21, 1974. These structures would have required significant redesign and reconstruction to provide an internal hood and plenum had EAF #4 been expected to comply with the relevant provisions of the NSPS.

## **Billet Caster and Round Caster**

The two casters had been assigned separate construction permits, primarily because they were two difference size furnaces. The Title V application requested the two caster be combined into one source. The emission factors for both furnaces are the same and the fuel consumption and steel processing records are not kept separately. Combining the two casters into one source allows the permittee the flexibility to operate either caster as needed for production schedules without the need for additional recordkeeping. This request was granted and the casters were combined as one source in the operating permit.

**1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-3 for the billet caster and 93PB1073-4 for the round caster. In preparing the Operating Permit a typographic error was found in the Final Approval of Construction Permit 93PB1073-4 for the round

caster. The error set the nitrogen oxides emission limit at 6.69 tons per year. The correct value was 35.59 tons per year. The correct value was incorporated in the Operating Permit.

**2. Emission Factors:** The emissions are estimated from the natural gas consumed and the amount of steel processed. The natural gas emission factors were selected from AP-42. The particulate matter emission factor for hot metal transfer was taken from AP-42. The  $PM_{10}$  and the NOx emission factors were developed in the preparation of the construction permits.

The Title V application total facility emissions reported could not be verified. As noted above, the meltshop particulate emissions were apparently double counted when calculating the total emissions. In addition, it appears that while the application discussed the process related emission factors for  $PM_{10}$  and nitrogen oxide in the casting process, these emissions were not calculated and included in the emissions for the casters and the total facility.

- **3. Monitoring Plan**: The fuel usage, amount of steel processed and the furnace operating hours are to be monitored for estimating the emissions and determining compliance.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

## Ladle Metallurgy Station

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-8. During the preparation of the Operation Permit the permittee requested the hourly limits be increased, but the annual limits not be changed. Based on experience, the permittee was not certain they could comply with the short term limits during periods of intense production. The Division accept the request to increase the limit.
- **2. Emission Factors:** The emission factors were provided in the Title V application. The Title V application baghouse capture efficiencies of 99.0% for particulates, 98.7% for  $PM_{10}$ , and 99.0% for lead, were used in verifying compliance for this process.
- **3. Monitoring Plan**: The emission estimates and the compliance determinations are based on the monitoring of the amount of steel processed and the operating hours of the station.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

# **Vacuum Degassing Facility**

- **1. Applicable Requirements:** The applicable requirements were established by Construction Permit 93PB1073-2. During the preparation of the Operation Permit the permittee requested the hourly steel processing limit be increased, but the annual limit not be changed. Based on experience, the permittee was not certain they could comply with the short term limit during periods of intense production. The Division accept the request to increase the limit.
- **2. Emission Factors:** The degassing emissions are discharged through a flare to control the amount of carbon monoxide emissions. The atmospheric emissions are generated from the natural gas combustion of the flare and from the degassing. The natural gas combustion emission factors were selected from AP-42. The carbon monoxide emission factor for the degassing process was developed for the construction permit.
- **3. Monitoring Plan**: The emission estimates and the compliance demonstration are based on the amount of natural gas consumed and the amount of steel processed.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.
- 1. Applicable Requirements: The applicable requirements were established by Construction Permit

# **Cleaver Brooks Boiler For Degassing Steam Production**

93PB1073-1.

- **2. Emission Factors:** The boiler burns only natural gas. The emission factors were selected from AP-42. There is no control equipment on the boiler stack.
- **3. Monitoring Plan**: Only the fuel use needs to be monitored because the estimated emissions are calculated from the fuel use. The Division accepts that the combustion of pipeline quality natural gas is not expected to exceed the opacity standard or create significant sulfur dioxide emissions. The permittee is to provide an annual certification that only pipeline quality natural gas is burned.
- **4. Compliance Status**: The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and other information available.

# Trestle Off-loading

**1. Applicable Requirements:** This source was grandfathered from the regulatory requirement for a construction permit. The pertinent applicable requirements for this source of fugitive particulate emissions are to minimize fugitive particulate emissions (Regulation No. 1, Section III.D.1.a), and APEN reporting (Regulation No. 3, Part A, Section II). The 20% opacity, no off-property transport and nuisance emission limitations identified in Regulation 1, Section III.D.1.c are guidelines, not enforceable standards. However, failure to comply with the guidelines may trigger the Division to require a fugitive emissions control plan be submitted. The file information indicates a fugitive particulate emissions control plan has not been required to avoid a problem with the off-site transport of fugitive particulate emissions.

While PM and PM<sub>10</sub> fugitive particulate emissions are subject to the APEN reporting requirements, they but are not subject to annual emission fees.

**2. Emission Factors:** Fugitive emissions are emissions that are not discharged to the atmosphere in a confined flow stream. The combination of wind and the exposed surface area create fugitive particulate emissions from the storage piles. The fugitive particulate emissions are categorized as particulate matter (PM), which is typically particulates with a relatively coarse size range, and particulate matter less than 10 microns in diameter  $(PM_{10})$ .

The Title V application provided a particulate emission factor of 0.0128 pounds per ton of total flux off-loaded, and 0.0018 pounds per ton of burned lime off-loaded from the trestle. The Title V application also provided  $PM_{10}$  emission factors of 0.00607 pounds per ton of total flux off-loaded, and 0.00087 pounds of burned lime off-loaded. The Division accepts the emission factors provided by the application.

The permittee notes the flux material being purchased may change in the future and have different emissions factors, but the source emissions would not be expected to change. The Division is not able to accommodate an unspecified list of materials in the Title V permit. If a future change in the materials used results in no change or a decrease in the source emissions, the Title V permit may be modified with an administrative type of change. If the emissions increase, considerations for reopening the permit will have to be reviewed at that time.

**3. Monitoring Plan:** As noted above, once the emission factors have been determined the emissions can be estimated from the amount of material off-loaded from the trestle each year. Fugitive particulate emissions may be controlled by wetting the stored material with water or chemicals, compaction and grading of the stored material. Visual observations provide sufficient information for when a problem is developing and the need for corrective action.

**4. Compliance Status:** The Division accepts that this source was in compliance at the time the application was prepared based on the information provided in the application and the self-certification

# **Insignificant Sources**

performed by the applicant.

Several insignificant sources of emissions related to this production process are noted in the Title V application. These were cited by the use of the general categories provided in the Title V application forms, and no specific source or equipment was noted. On an annual basis the applicant will have to review the estimated emissions from these insignificant sources to determine if they are still insignificant and in compliance.

The Title V application notes there are 35 to 45 insignificant natural gas combustion sources with ratings of 0.02 to 0.25 million Btu per hour. Various activities within the steelmaking mill such as slag removal, storage of HBI and bucket loading have particulate emissions which are unquantifiable at this time. The permittee used their experience to estimate that each of these sources are less than 2 TPY. The particulate emissions from the flux hoppers are considered insignificant whether or not an 80% enclosure efficiency is applied. The handling of the baghouse dust is considered to be an insignificant source. The potential to emit for the dust handling is estimated at only a fraction of a ton without consideration of any dust control measures.

### **Alternate Operating Scenarios**

No alternative operating scenarios were identified.

### Permit Shield

The intent of the permit shield is to provide limited protection to the facility in the event of an error in the evaluation of whether a regulation, or portion of a regulation applies. The facility identifies the issue and presents its position. The Division reviews the position. If the Division and the facility mutually agree on the position, the issue is recorded in the permit. If, at a later date, it is determined that an error was made in the mutual decision, the facility is protected from enforcement action until the permit can be reopened and the correct requirements and a compliance schedule inserted.

For this Title V application, where a request for the shield protection for a specific applicable requirement, or a specific section of an applicable requirement, and a proper justification was provided for the request, the shield was granted. The permit shield was not granted for requests for a

blanket protection from all portions of a regulation. The Division finds this type of blanket protection is too broad and general for the shield protection to be properly interpreted and granted.

### Miscellaneous

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or emission factor equations included in the permit are considered to be fixed until changed by the permit. Obviously, factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors, and to notify the Division in writing of impacts on the permit requirements when there is a change in factors. Upon notification, the Division will work with the permittee to address the situation.

# **Hazardous Air Pollutants**

Hazardous air pollutants are included in the State non-criteria reportable pollutants. A de minimis reporting threshold is established by a combination of the degree of health hazard represented by the pollutant (Bin) and the height above ground for the discharge of the material. The non-criteria reportable pollutants and the reporting thresholds for the sources at this mill are included in Appendix H of the Title V permit. The Title V application provided the following emission factors for the pollutants.

#### Steelmaking Non-criteria Pollutant Emission Factors

Pollutant	Value	Units
	Electric Arc Fu	rnaces #3 & #4
Arsenic	0.00127	pounds per ton of particulate matter emitted
Cadmium	0.0141	
Chromium	0.0484	
Mercury	0.00605	
Manganese	0.726	
Nickel	0.00605	
Lead	0.526	

Pollutant	Value	Units
	Trestle Of	f-Loading
Ferromanganese	0.0128	pounds per ton of ferromanganese
Silicomanganese		pounds per ton of silicomanganese
Ferrochromium		pounds per ton of ferrochromium

### Addendum

Prior to the completion of the mandatory 45 day EPA review period for this Operating Permit, the permittee submitted a written request to the Division for the removal of the short term emissions limits from the Permit. The request was made as a consequence of the Air Quality Control Commission actions detailed on the first page of this document.

The Division reviewed the short term limits contained in this Operating Permit in response to the request. As a consequence of the Air Quality Control Commission actions, the short term limits listed below were removed from the Permit.

Construction Permit	Emission Point	PM lb/hr	PM <sub>10</sub> lb/hr	Process Rate
93PB1073-3	Billet Caster			288 tons per hour
93PB1073-4	Round Caster			288 tons per hour
93PB1073-8	Ladle Metallurgy Stations	1.82	1.17	175 tons per hour
93PB1073-2	Vacuum Degassing Facility			150 tons per hour

The hourly limits for the Electric Arc Furnaces were established by the formula for processing equipment set forth in Regulation No. 1, Section III, 'C.1.b. Since these limits are established by a specific State standard, they remain applicable, and can not be removed from the Permit. The grain loading standard is a State-only requirement for the furnaces. The Division does not have the information needed to establish whether the grain loading standard or the hourly limit is more stringent; which requires the permittee to demonstrate compliance with both limits.

# TECHNICAL REVIEW DOCUMENT for OPERATING PERMIT 95OPPB097

to be issued to:

CF&I Steel, L.P.
Pueblo - Steelmaking Mill
Pueblo County
Source ID 1010048

Prepared by Michael E. Jensen September 15, 1999

#### I. PURPOSE:

This document establishes the basis for decisions made regarding the revision of Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the revision of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of December 8, 1995, as well as numerous telephone contacts with the applicant.

On April 16, 1998, the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all Operating Permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the Construction Permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting the hours of operation.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revisions, and the permittee shall be allowed to

operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

#### General Information

At the time the Title V applications were submitted this facility operated under the name of CF&I Steel, L.P. In early 1998 the facility name changed to Rocky Mountain Steel Mills. The legal entity CF&I Steel, L.P. remains but business is now conducted under the new name. The operating permits remain under the name of CF&I Steel, L.P.

CF&I Steel, L.P. (CF&I) uses two (2) electric arc furnaces to produce steel for the production of various products. CF&I elected to divide the plant by major production function and submit separate Title V permits for each production function. This places the compliance responsibility on the designated production manager making the operating, budget and scheduling decisions. For this document the word >Mill=will be used to refer to the various processes related to the production function. The word >Mill=is not referring to a separate facility. The following separate Title V permit have previously been issued:

Rail Mill 95OPPB086 Utilities 95OPPB098

Rod/Bar Mill 95OPPB088 Seamless Mill 95OPPB089

The sources addressed in this operating permit are those related to the portion of the plant dedicated to the production of steel. Sources of air pollution emissions involved with the steel production are:

EAF #3 & #4 - Electric Arc Furnaces (EAF) melt the steel scrap. The melted scrap is mixed with various materials (fluxes) to produce steel billets.

Ladle Metallurgy Station - Materials are added to refine the steel to the quality required for the final production use.

Steel Casters - There are two steel casters, a billet caster and a round caster, for casting the molten steel.

Vacuum Degasser - Dissolved gases are removed from the molten steel. The gases are passed through a flare to reduce the carbon monoxide emissions.

Steam Boiler - Steam is used in the molten steel degassing process. A boiler is required to produce the steam.

Trestle Offloading - Rail cars delivering raw materials for the steel production are moved onto an elevated trestle for off-loading.

There is one slightly different aspect about the baghouses for the electric arc furnaces worth noting. The gas is exhausted from the baghouses into a plenum through the baghouses instead of being discharged through conventional stacks.

Issues		
<b>L</b> BB <b>u</b> CB		

#### **Short Term Limits**

Some of the existing Construction Permits for this facility contained short term limits established when the permit was issued. As discussed at the start of this document, the Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. All short term emission and production/throughput limits that appeared in the Construction Permits associated with a source that are not required by a specific State or Federal standard or by Division procedures could be deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. On August 5, 1998, CF&I submitted a letter requesting the short term Construction Permit limits for the Seamless Mill and the Steelmaking Mill be removed from the Operating Permits before they were issued. The Seamless Mill short term limits were established by Regulation No. 1 and had to remain in the permit. All the Operating Permits except this Steelmaking permit were subsequently issued. Some of the existing Construction Permits for the Steelmaking Mill contained short term limits that satisfied the criteria for removal.

At the time the letter requesting the removal of the short term limits was received, the Steelmaking Mill proposed permit had completed the Public Comment activity and had been submitted to EPA for their review. Also on August 5, 1998, the Division met with CF&I representatives to discuss concerns CF&I had regarding the applicability of Regulation No. 1 Section V.D.2 which sets a grain loading standard for the particulate emissions from the electric arc furnaces. Subsequent discussions on the Regulation No. 1 issue were continued beyond the end of the EPA review period. The revision of the Operating Permit to remove the short term limits required a change in the monitoring programs in the proposed permit. The Division determined the revision of the Operating Permit should be subject to additional Public Comment. The Division could have issued the previous version of the permit and then processed the modification requested. The Division believes it is more efficient not to issue the previous version.

A summary of the short term limits established by the Construction Permits, and removed from the Operating Permit are shown in the table below. The short term limits required by the applicable requirements of Regulation No. 1 were incorporated in the modified Operating Permit. In some cases, the

Regulation No. 1 limits are substantially greater than the previous construction permit limits. The monitoring requirements were modified as necessary to reflect the changes.

Construction Permit	Emission Point	NOx, lb/hr	CO, lb/hr	VOC, lb/hr	PM, lb/hr	PM <sub>10</sub> , lb/hr	Fuel Use or Process rate
93BP1073-3 93PB1073-4	Billet & Round Casters						288 tons per hour
93PB1073-8	Ladle Metallurgy Station				1.82	1.17	175 tons per hour
93PB1073-2	Vacuum Degassing Facility						150 tons per hour

#### **Electric Arc Furnace Particulate Emissions**

Discussions regarding the applicability of Regulation No.1 Section V.D.2 raised concerns regarding the basis for the CF&I certification of compliance with the arc furnace particulate matter emissions. A compliance test was needed but CF&I questioned whether proper testing could be performed. The Division inspected the emissions control device and determined testing could be performed. The monitoring requirements were modified to incorporate the requirement for a compliance test.

The emissions monitoring developed for demonstrating compliance with the particulate matter limits for the arc furnaces combines performance testing and gas flow monitoring. An annual compliance test will be conducted to demonstrate compliance with the short term limits at that point in time. The performance test will also establish emission factors for use with the continuous gas flow measurement to demonstrate compliance in the interim between compliance tests. Provision was included to reduce the compliance test frequency should testing establish there are low levels of actual emissions.

The Operating Permit includes the permit shield protection to identify that the electric arc furnace emissions are not subject to the provisions of New Source Performance Standards (NSPS) Subpart AA and AAa of 40 CFR Subpart 60. However, the provisions of 40 CFR Subpart 60 provide established emission testing and monitoring procedures. The provisions of the Title V program obligate the Division to establish adequate monitoring procedures to demonstrate continuous compliance with the permit limits. The Division believes establishing the monitoring requirements based on selected provisions of 40 CFR Part 60 provides established and accepted procedures that are readily available for use by CF&I.

### **Language Changes**

In the time since the initial Operating Permit draft was prepared the Division has modified some of the standard language in the Operating Permits to satisfy concerns expressed by EPA. Sections of the permit have been modified to incorporate the current standard language.

### Addendum

In response to the Public Notice CF&I requested a Public Hearing before the Air Quality Control Commission. The hearing was scheduled and a series of continuation requests delayed the hearing until the last requested date of September 16, 1999. On September 9,1999, a Compliance On Consent Order was issued, and CF&I withdrew the request for the Public Hearing.

# TECHNICAL REVIEW DOCUMENT for OPERATING PERMIT 95OPPB097

to be issued to:

CF&I Steel, L.P.
Pueblo - Steelmaking Mill
Pueblo County
Source ID 1010048

Prepared by Michael E. Jensen January 10, 2000

## I. PURPOSE:

This document establishes the basis for decisions made regarding the revision of Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the revision of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of December 8, 1995, as well as numerous other documents, telephone contacts with the applicant and comments received during the Public Comment period.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revisions, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

### II. GENERAL INFORMATION

At the time the Title V applications were submitted this facility operated under the name of CF&I Steel, L.P. In early 1998 the facility name changed to Rocky Mountain Steel Mills. The legal entity CF&I Steel, L.P. remains but business is now conducted under the new name. The operating permits remain under the name of CF&I Steel, L.P.

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>Mill=will be used to refer to the various processes related to the production function. The word>Mill=is not referring to a separate facility. The following separate Title V permit have previously been issued:

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The sources addressed in this operating permit are those related to the portion of the plant dedicated to the production of steel. Sources of air pollution emissions involved with the steel production are:

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Ladle Metallurgy Station - Materials are added to refine the steel to the quality required for the final production use.

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Steam Boiler - Steam is used in the molten steel degassing process. A boiler is required to produce the steam.

Trestle Offloading - Rail cars delivering raw materials for the steel production are moved onto an elevated trestle for off-loading.

There is one slightly different operational aspect of the baghouses for the electric arc furnaces worth noting. The gas is exhausted from the baghouses into a plenum through the baghouses instead of being discharged through conventional stacks.

#### III. ISSUES

# New Source Performance Standards (NSPS) Applicability

The Title V application stated that EAF #4 was placed in service on July 5, 1976, which would make the EAF subject to the provisions of 40 CFR Part 60 (NSPS) Subpart A AGeneral Provisions@and Subpart AA AStandards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and on or Before August 17, 1983". The provisions identify the affected facilities as the electric arc furnaces and the dust handling systems. The provisions define the shop as the building housing the electric arc furnaces and shop emissions are established as part of the furnace requirements.

Since the in-service date was well after the applicability date of Subpart AA, the Division reviewed the applicability of Subpart AA to both EAF #3 and EAF #4. At the time the EAFs were being constructed the Division had not been delegated the responsibility for the NSPS program. Therefore, it was not expected that the files would provide any information on the applicability of the NSPS requirements unless the information was provided as part of some other issue. The Divisions archived files contained extensive material related to an EPA/CF&I legal action in approximately 1979. The archived files were reviewed for any information relating to an EPA NSPS determination being made at that time, or prior to that time, since particulate emissions were an issue in the case. No information was found. File information did identify that steel production was shifted to the EAFs in 1982 when the primary facilities were shutdown.

The files contained various documents related to the permitting of EAF #3. The documents identified that construction of EAF #3 and the meltshop was completed by January, 1974. EAF #3 was placed in service January 16, 1974. On this basis, EAF #3 existed prior to the October 21, 1974, applicability date of Subpart AA, and, therefore, is not subject to the provisions.

The files contained an application for a permit-to-construct dated November 22, 1974, which identified an expected construction start date for EAF #4 of March 15, 1976. Clearly the construction of EAF #4 was accomplished after the Subpart AA applicability date. However, CF&I claimed that EAF #4 was constructed as a continuation of a construction project that commenced with the start of the construction of EAF #3. The Division reviewed information provided by CF&I and the files for information related to this issue.

The Division requested the Attorney Generals office to review the legal background related to EPAss previous decisions related to Acontinuous construction. Based on the file information, additional information provided by CF&I, and with the consultation provided by the Attorney Generals office, the case law review, the Division notified CF&I by letter dated July 8, 1996, that Subpart AA did not apply to EAF #4 based on EAF #4 being a part of a continuous construction project that started with EAF #3.

In a December 14, 1999, letter, EPA notified the Division of their determination that Electric Arc Furnace (EAF) #4 is subject to the provisions of 40 CFR Part 60 Subpart AA AStandards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974 and on or Before August 17, 1983".

Being subject to Subpart AA, EAF #4 is also subject to 40 CFR Part 60 Subpart A AGeneral Provisions. The EPA determination was based on the construction date of the source (EAF #4). EPA found that CF&I had failed to demonstrate that there was an actual physical construction of, or a binding contractual obligation for EAF #4, independent of EAF #3, prior to the NSPS applicability date.

The previous versions of the draft permit provided the permit shield from the provisions of NSPS Subpart AA for EAF #3 and EAF #4. The EPA determination requires this permit revision to remove the shield protection for EAF #4.

The previous versions of the draft permit identified the same applicable requirements for both EAFs. The EPA determination requires this revision of the permit to address the two furnaces separately in the Operating Permit in order to correctly identify the applicable requirements for each EAF. Historically, both baghouses have operated as necessary to control the emissions from one or both furnaces. A consultant hired by CF&I determined the furnace canopies were too small. The June 4, 1997, Compliance Order on Consent, directed CF&I to enlarge the two furnace canopies to properly capture and control the fugitive emissions from the operation of the furnaces. CF&I subsequently proposed a different solution accepted by the Division.

Since both baghouses must operate to control the emissions, the emissions from both baghouses are subject to the emissions limits for EAF #3 when **only** EAF #3 is operating. However, whenever EAF #4 is operating, both baghouses are subject to the EAF #4 emission limits. Whenever EAF #4 is operating, the baghouses are subject to the State-only grain loading standard which has the same numerical value (0.00520 grains/dscf) as the NSPS Subpart AA provisions. However, the State-only regulation specifies the value is to be determined from a two-hour average, while the Subpart AA value is determined from three (3) tests, each test to be a minimum of four (4) hours in duration. Given the potential for significant fluctuation of the emissions, it is not possible to project which is the more stringent limitation. Compliance with both limitations will therefore have to be demonstrated during any compliance testing.

Subpart AA provides options for a source to consider. For the meltshop emissions, the source may either provide a continuous pressure monitor for the furnace static pressure or conduct daily Method 9 observations in the shop in the proximity of the furnace during a melting and refining period. For controlling the shop emissions, the source is allowed to select whether it will monitor the fan motor amperes and damper settings, monitor the volumetric flow in each separately ducted furnace hood, or monitor the damper settings and the volumetric flow at the inlet to the baghouse. At this time the options of choice have not been selected. Therefore, the permit conditions must include the requirements related to all the options. At a future date the conditions may be adjusted to reflect the actual situation.

NSPS Subpart AA, '60.272(a)(3) requires the establishment of a combination of damper and volumetric flow rate settings to limit the meltshop opacity during operation of an EAF to be less than 6%, 20% during

charging periods, and 40% during tapping periods. Since this provision addresses the operation of any EAF, CF&I must be mindful that the meltshop is subject to these opacity limitations during the operation of EAF #3. CF&I also needs to be mindful that Construction Permit 10PB557, Condition 1, sets an opacity limit not to exceed 20%.

EAF #4 is not in compliance with the NSPS provisions at this time. Since the previous versions of the draft Title V permit were never issued, EAF #4 does not have the permit shield protection from the applicability of NSPS Subpart A and AA.

CF&I is contesting the EPA applicability determination. Legal actions involved with the applicability dispute could result in external requirements forcing delays in the accomplishment of the compliance schedule and/or revisions to the applicable requirements set forth in the operating permit.

#### **Non-compliance Issues**

A considerable amount of time has passed as a consequence of a number of actions and activities that developed during the drafting of this permit. During this extended time it was determined that CF&I was not in compliance with some existing regulatory requirements. As a consequence, Compliance Orders on Consent were issued June 4, 1997, and September 9, 1999. This draft permit was revised to incorporate the applicable provisions of the compliance schedules for the Consent Orders.

Note in regard to the October 30, 1999 deadline set forth in the Compliance Schedule for the September 9, 1999 Compliance Order on Consent: CF&I submitted a letter dated October 29, 1999 outlining its proposal to develop a method to monitor and record airflow through the baghouses. Ongoing discussions between CF&I and the Division may resolve this issue prior to the issuance of the Operating Permit, in which case the requirement will be removed from the final version of the permit.

Note in regard to the October 31, 1999 deadline set forth in the Compliance Schedule for the September 9, 1999 Compliance Order on Consent: CF&I submitted a dust control plan prior to the deadline. The plan needs to be modified per a Division letter dated December 18, 1999. Ongoing discussions between CF&I and the Division may resolve this issue prior to the issuance of the Operating Permit, in which case the requirement will be removed from the final version of the permit.

Note in regard to the December 1, 1999 deadline set forth in the Compliance Schedule for the September 9, 1999 Compliance Order on Consent: CF&I did not submit a report prior to the deadline. Ongoing discussions between CF&I and the Division may resolve this issue prior to the issuance of the Operating Permit, in which case the requirement will be removed from the final version of the permit. The Compliance Schedule in the Title V permit identifies a number of activities, tasks or actions that may be completed before the final version of the Title V permit is issued. Any such completed activities, tasks, or actions will be removed from the final version of the permit.

The COC for September 9, 1999, identified the tundish exchange as a source of potential opacity exceedances. The permit revision includes a requirement for monitoring the opacity during the tundish exchange

## IV. TRESTLE OFF-LOADING FUGITIVE PARTICULATE EMISSIONS

Previous drafts of the permit had not correctly addressed the regulatory requirements for the control of this source=s emissions. This revision of the permit was included changes to properly incorporate the regulatory requirements.

## V. EAF EMISSIONS

Condition 1.6 of the previous draft of the permit required the submittal of a plan detailing how the baghouse particulate matter would be sampled, tested and the emissions estimated. CF&I objected to the submittal of a plan on the basis that the details were provided in the Title V application. The information provided in the Title V application was not sufficient to comply with the monitoring intentions of Condition 1.6. CF&I submittal the additional detail required. Appendix G has been added to this draft permit to present the details intended to be provided by Condition 1.6, and Condition 1.6 modified to reflect this change.

# VI. LANGUAGE CHANGES

In the time since the initial Operating Permit draft was prepared the Division has modified some of the standard language in the Operating Permits to satisfy concerns expressed by EPA. Sections of the permit have been modified to incorporate the current standard language.

The Division has been working with industry to make the compliance reporting requirements easier to understand and accomplish. To this end, there has been a steady evolution of the wording and formatting of the permit appendixes. This revision of the permit includes the standard wording and formatting in use by the Division at this time.